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Running Head: GRADUATING FROM HIGH SCHOOL

Graduating from high school: The role of gender-related attitudes, self concept and goal clarity
in a major transition in late adolescence

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Abstract

An 11-month longitudinal study (T1: $N = 520$, $M = 19$ years) investigated the role of gender-related self-concept and goal clarity during the transition period surrounding graduation from upper secondary school in Switzerland. The first assessment took place a few months before graduation and assessed participants' gender-related self-concept (instrumentality, expressivity), gender-role attitudes, goal clarity, and job-related aspirations. Despite the high level of education, gender-related differences in attitudes and self-concept showed that boys endorsed more traditional gender-role attitudes than girls. Relationships between gender-related self-concept and attitudes showed different patterns for girls and boys. Regarding adaptation to the transition, gender-related self-concept predicted change in career-related goal clarity, which, in turn, predicted an increase in life satisfaction over time. Our results highlight the important role of instrumentality, expressivity, and career-related goal clarity during the transition of graduating from high school.

Key words: Developmental transition, gender differences, gender-related self-concept, goal clarity

Graduating from high school is often described as one of the major transitions that occur during late adolescence (e.g., Tomasik, Hardy, Haase, & Heckhausen, 2009). Leaving school entails a number of education- and career-related decisions (e.g., whether or not to aspire to a higher academic degree, which career path to choose) as well as personal decisions (e.g., whether to another city). Decisions during this transition period are of great importance for further education and career-related development and achievement (e.g., Duncan, Featherman, & Duncan, 1972) as well as for subjective well-being (e.g., Salmela-Aro & Tuominen-Soini, 2010; Schulenberg, O'Malley, & Bachman, 2005). In addition to the importance of this specific transition for further development, transitions can generally be seen as magnifying glasses for the role of individual differences in mastering one's life (Caspi & Moffitt, 1993). Thus, investigating the transition from high school to work or university offers us the opportunity to shed light on the role of individual difference variables such as gender-related self-concept or goal clarity in developmental outcomes. Although studies on transitions during adolescence often focus on or include comparisons between boys and girls (e.g., Guay, Senecal, Gauthier, & Fernet, 2003; Salmela-Aro & Tuominen-Soini, 2010), there is a dearth of research on the role of gender-related self-concept and goal clarity in high-school graduates' ability to adapt to early career-related transitions such as graduating from high school.

More specifically, the present paper addresses the following questions: (1) Do high school students graduating from upper secondary school in Switzerland show the stereotypical pattern of differences between girls and boys in gender-related self-concept, attitudes, and goals? We selected this group of students as, academically, they are the highest achieving students in the Swiss school system and thus have the greatest number of education- and career-related

options open to them. These options are equally accessible to boys and girls. (2) What role do gender-related attitudes, self-concept, and career- and family-related goals play in successfully managing the transition of graduating from high school?

Defining the main constructs. Gender-related *attitudes* entail different expectations about the typical behaviors of men and women and constitute the basis for gender roles that serve as normative conceptions about how to act as a man or woman. These conceptions include beliefs about prototypical gender-related physical characteristics, personality traits, abilities, work roles, and career paths (Abele, 2003; Eagly, 1987). In this paper, we focus on attitudes towards traditional and egalitarian gender roles. Gender-related *self-concept* refers to a person's belief about the extent to which certain characteristics that are seen in a given culture as being prototypical for men or women apply to them.

Goals are states a person wishes to approach or avoid. Goals represent the essential building blocks of development because they organize and guide behavior over time and across situations (Freund & Riediger, 2006). Moreover, goals contribute to the specialization of one's general potential; they thereby give development direction and their achievement provides access to new resources. This might be particularly important during transition periods like that surrounding one's graduation from high school, which opens up a number of possible options regarding one's future career. As will be discussed in more detail below, *goal clarity*, that is, how concrete a given goal is, is one of the goal dimensions essential for successful goal pursuit and achievement.

A transition can be defined as the passage from a familiar, predictable context to an unfamiliar, unpredictable context (Caspi & Moffitt, 1993). As such, transitions are a time of

insecurity. As argued by Caspi and Moffitt (1993), dispositional variables—such as gender-related self-concept or goal clarity—might provide stability during times of change because they help reduce the complexity and insecurity associated with the new context by serving as guides as to how to behave and what goals to pursue. This might intensify individual differences in gender-related attitudes and self-concept.

Putting graduation in context: Some background information on the Swiss school system. Although the lives of Swiss adolescents resemble those of adolescents in many other Western countries, one special feature should be noted: The percentage of students who graduate from upper secondary school (Gymnasium) in Switzerland is rather low as admission to this school is highly selective and based on students' academic performance (for an explanation of the Swiss school system see Note 2 in the supplemental materials). Students who graduate from Gymnasium are arguably the potential academic elite of Switzerland, who have the option of attending a university and pursuing a university degree. Even though one might argue that this group is highly privileged and does not experience the same kinds of insecurities and difficulties after graduating from high school as lesser educated adolescents do, they also experience the “tyranny of choice” stemming from the very fact that they have so many options available. In fact, what makes transitions so challenging is that the new situation has many degrees of freedom and does not offer a clearly prescribed set of rules concerning which path to follow.

Gender-related attitudes and self-concept. Gender-related attitudes and self-concept, which both shape our beliefs about our competence, have been investigated primarily with respect to academic achievement and performance in school children (e.g., Marsh, 1989; Nowell & Hedges, 1998). However, the ascription of typical gender-related attributes to oneself and the

endorsement of traditional gender-related attitudes might also influence one's career-related choices. According to Bem (1974), the typical female role is related to that of being a mother and caring for family members, which is associated with an expressive self-concept (also called "nurturance" or "communion") and encompasses traits like "warmth," "friendliness," and "empathy." The typical male role is primarily related to being the breadwinner of the family and to having a successful career. This role is more strongly related to an instrumental self-concept (also called "agency") and encompasses traits like "competitiveness" and "decisiveness."

Given that gender-related self-concept and roles are strongly related to each other, we expect that the endorsement of a gender-related self-concept is differentially related to the embracement of more traditional gender roles in girls and boys. Boys who see themselves as highly agentic have a gender-typical self-view which might also involve the endorsement of traditional gender-related attitudes. In contrast, a boy who views himself as being highly expressive and nurturing contradicts the gender stereotype and may therefore be more likely to reject traditional views of the roles of men and women. Conversely, we expect that girls who view themselves as being highly instrumental are also more likely to reject traditional gender-role attitudes, whereas girls who endorse the gender-typical self-view of being highly expressive might also be more inclined to endorse traditional gender-related attitudes.

According to Hill and Lynch (1983), a gender-related self-concept as well as roles and attitudes related to expressivity and instrumentality should increase in adolescence ("gender intensification hypothesis"). In support of the gender-intensification hypothesis, Galambos, Almeida, and Peterson (1990) found that a self-concept reflecting masculinity increased in boys between the ages of 11 and 13 years, as did gender-related attitudes. Whereas boys became more

conservative in their attitudes over time, girls became more egalitarian. This result is in line with Jackson and Tein (1998), who found that gender-stereotypical beliefs about parenting and career were more strongly endorsed by high school boys than girls. However, Simmons and Blyth (1987) did not find evidence in support of an intensification hypothesis with respect to young adolescents' education- and career-related plans. For young adolescents, career-related decisions may still seem far away. Thus, one of the questions addressed in this study is whether there are stronger gender-related differences in adolescents' education- and career-related plans just before and after graduating from high school.

Adaptiveness of a gender-related self-concept. In this study, we focus on the role of a gender-related self-concept during the transition of graduating from high school. Recently, we (Weiss, Freund, & Wiese, 2012) found that women who are low in openness for new experiences manage better transitional uncertainty (e.g., graduating from high-school or university, returning to work after maternity leave) when they endorse traditional gender role beliefs. In this research, we argued that traditional gender roles protect or increase perceptions of control when faced with the uncertainties associated with occupational transitions. However, this research left open how adaptive a stereotypical male or female self-concept is. Some studies find that expressivity is related to higher levels of psychological well-being than instrumentality (e.g., Cook, 1987), but others show that instrumentality is associated with higher self-esteem and lower emotional distress (e.g., Whitley, 1983). As instrumentality is related to self-reports of better problem-solving skills (Heppner, Walther, & Good, 1995), one might expect that instrumentality also helps adolescents master the challenges posed by the transition from high school to a new environment. There is longitudinal evidence supporting this assumption in college graduates.

Abele (2003) showed that instrumentality predicted both objective and subjective career success after graduation and 1.5 years later. In contrast, expressivity did not affect career success, but predicted the wish for and actual birth of a child. In the present study, we investigate whether Abele's results can be replicated in a younger sample of adolescents. Based on her results, we expect to find that instrumentality is adaptive in terms of career outcomes including the clarity of career-related goals and satisfaction with the transition of graduating from high school.

Unlike Abele (2003), we also expect to find that expressivity plays a role in adolescents' ability to adapt to their new role as an adult at college or in vocational training. Expressivity may facilitate the establishment and maintenance of social ties. As shown by Tynkkynen, Nurmi, and Salmela-Aro (2010), social ties play an important role in adolescents' career-related decisions. In addition, social integration is an important task in institutional socialization, that is, when entering a new institution such as college (Gruman, Saks, & Zweig, 2006; Nikitin & Freund, 2008). In this regard, expressivity might be helpful, particularly when it comes to preventing feelings of loneliness. Based on Abele and Spurk's (2011) results on the role of expressivity during family-related transitions such as having a child, we propose that that expressivity may be related to having clearer family-related goals.

Goals regarding career and family. Education- and career-related choices may be guided by gender-related attitudes and self-concept, which provide a frame of reference for decisions concerning what aspiration level and what career seem suitable. A competence-related self-concept such as an instrumental self-concept is closely related to the career domain and should thus be more important than an expressive self-concept for the selection and pursuit of career-related goals during school-related transitions. Highly instrumental adolescents are more

likely to think about their career goals and, hence, gain greater clarity about them. However, cross-domain associations may also exist. For instance, girls who strive to assume the role of primary caretaker in the family may more strongly consider how work-related responsibilities can be combined with childrearing responsibilities. This may lead to greater goal clarity regarding both career- and family-related goals. Hence, both instrumentality and expressivity may influence the clarity with which career- and family-related goals are formulated. Goal clarity, in turn, might affect how well adolescents adapt to the transition (Figure 3) because goals provide guidelines for decisions and behavior and thereby provide orientation, which counteracts the insecurities associated with transition. For instance, if one's career-related goals are clear, it might be easier to select classes at college or decide which major best serves to achieve these goals. Thus, goal clarity might lead to better adjustment to new education- or career-related environments. For instance, Braun (1998) found that it was difficult for college students with low career-related goal clarity to take their exams in the suggested semester. Taken together, then, we hypothesize that goal clarity is related to successful adaptation during the transition period surrounding graduation from high school.

Indicators of adaptation to the transition of graduating from high school.

Transitions such as graduating from high school pose various challenges to an adolescent. First, adolescents need to choose a career, decide whether to go to college (and, if so, what college and what major) or do an apprenticeship or take some time off (interim year). This choice is highly complex and has to be made under conditions of great uncertainty as information about the various options and one's suitability for these different education/career paths is incomplete. Moreover, most adolescents are faced with new social and educational contexts after graduating

from high school as many move out of their parental home during this time. As independence from parents increases, so do the challenges for self-regulation (Nikitin & Freund, 2008). These challenges can easily pose a threat to adolescents' subjective well-being. Not surprisingly, then, Havighurst (1972) viewed subjective well-being as an indicator of successful adaptation to developmental challenges (see also Schulenberg et al., 2005). According to this view, successful person-environment interaction results in life satisfaction. Thus, life satisfaction seems to be an appropriate indicator of short-term adaptation when education- or career-related outcomes such as grades or income are not available and difficult to compare across different education-/career-related choices (see Lent & Brown, 2008, for the use of subjective well-being as a work-related outcome). Table 1 summarizes the main hypotheses of the study.

Methods

Procedure

The study was conducted in 2007-2008. We contacted 32 Swiss high schools in German-speaking cantons, half of which participated in the study (see Note 2 in the supplemental material for rules of participation of schools in research studies in Switzerland). At T1 (about two months before graduation), paper-and-pencil questionnaires were administered in one-hour sessions in groups of about 25 students. Parental consent was not required as Swiss law allows adolescent participants to provide informed consent themselves, which they did. Three months after high school graduation (T2, about five months after T1), participants were contacted again via e-mail and asked to complete an online questionnaire. The assessment at T3, which took place about six months after T2 (and about 11 months after T1), followed the same procedure as that at T2. Participants were compensated at T1 with 25 Swiss francs (then equivalent to 25 USD), at T2

with the chance of winning one of 100 movie tickets valued at 20 Swiss francs or a cash prize, and at T3 with 10 Swiss francs.

Sample

At T1, $N = 520$ students participated (64.1% female, age: 17.4–22.3 years, $M = 19.15$, $SD = 0.75$; see Note 3 in the supplemental material explaining the age-range). For more information about nationality and the socio-economic background of the participants, see Note 4 in the supplemental material. The sample consisted of $N = 402$ at T2 and $N = 359$ at T3, which amounts to a retention rate of almost 70%. Participant attrition was mainly due to their no longer living at their original address (due to having moved or military service). The sex ratio remained constant from T1 to T3. Selectivity analyses with respect to the main variables, including age, showed no differences between the samples at the different assessments (see Supplementary Table 1).

Measures

Table 2 summarizes all of the measures used in this study and provides sample items as well as internal consistencies. Gender-related attitudes and self-concept, and plans after graduation were assessed at T1, goal clarity at T1 and T3, and life satisfaction at T2 and T3. Among other construct measures (not included in this paper), the goal clarity measure was omitted from T2 as participants had indicated that the questionnaire was too long at T1. Unfortunately, life satisfaction was not assessed at T1. If not noted otherwise, rating scales ranged from 1 (*does not apply at all*) to 6 (*applies very much*).

Data Analysis

Mean differences with respect to gender-related attitudes and self-concept, goal clarity, and aspirations were tested using *t* tests and ANOVA (the alpha level was Bonferroni-corrected). In order to investigate the interrelationships between gender-related attitudes and self-concept, goal clarity, and adaptation to the transition in girls and boys, we estimated the associations between these variables simultaneously in structural equation models taking both cross-sectional associations at T1 into account and longitudinal predictions of outcomes at T1, T2, and T3. Analyses were conducted using Mplus (Muthén & Muthén, 1998). Please note that item parcels were used as construct indicators whenever more than one item was available.

Results

Gender-related differences in gender-related self-concept, gender-role attitudes, goals, and aspirations. The first set of analyses pertains to differences between boys' and girls' gender-related attitudes, self-concept, goal clarity, and aspirations (see Table 3). In line with previous research, mean differences consistently showed that girls scored lower on instrumentality and higher on expressivity than boys did. Moreover, girls were more likely than boys to reject normative gender-role attitudes and to endorse positive beliefs about egalitarian role distribution. These differences were of medium to large effect size (Cohen's *d*).

Table 3 displays the mean differences for goal clarity at T1 and T3 (see Note 5). A repeated measures analysis of variance showed that girls and boys did not differ regarding career-related goal clarity. However, with respect to familial goal clarity, there was a main effect for participants' sex ($F(1, 357) = 4.74, p < .05, \text{Eta}_p^2 = .01$) and time of measurement ($F(1, 357) = 6.55, p < .05, \text{Eta}_p^2 = .02$), indicating that girls reported a significantly higher level of goal clarity in the family domain at T1 and that girls and boys experienced an increase in goal clarity

in the family domain from T1 to T3. Gender differences in level of aspiration were small (Figure 1): Girls were more likely to aspire to a degree from a university of applied sciences, whereas boys were more likely to aspire to a university degree.

Predicting gender-related attitudes by expressivity and instrumentality. In order to test the association between a gender-related attitudes and self-concept, we applied a structural equation model approach. Our path model included latent variables, modeling structural relationships between gender-role attitudes, egalitarian attitudes, expressivity, and instrumentality. Specifically, we computed a two-group SEM for girls and boys. The model depicted in Figure 2 evinced an appropriate fit with the data ($\chi^2(90) = 161, p < .001$; CFI = 0.95; RMSEA = 0.06; 90% CI [.041, .069], and SRMR = .059). The coefficients are standardized, which allows direct comparison of the size of the paths (see Note 6).

First, as can be seen in Figure 2 and confirming our hypothesis, instrumentality positively predicted boys' but not girls' endorsement of normative gender-related attitudes. In turn, normative gender-role attitudes were negatively associated with egalitarian attitudes. Also confirming our hypotheses, higher levels of instrumentality among girls were associated with an *endorsement* of egalitarian attitudes, whereas it predicted the *rejection* of egalitarian attitudes among boys. Only one of the hypothesized associations with expressivity was significant: As expected, expressivity was negatively related to the endorsement of gender role attitudes in boys.

The role of expressivity and instrumentality in the development of career-related goal clarity during the transition. In a second SEM, we examined the role of expressivity and instrumentality in the development of career-related and familial goal clarity during the transition. Moreover, we hypothesized that an increase in career-related goal clarity positively

predicts life satisfaction. Our path model included latent variables, modeling structural relationships between gender-related self-concept (i.e., expressivity and instrumentality), goal clarity (i.e., career-related and familial goal clarity), and life satisfaction (see Figure 3). The model fit was satisfactory ($\chi^2(190) = 342, p < .001$; CFI = 0.97; RMSEA = 0.039; 90% C.I. [.032, .046], $p = .99$, and SRMR = .057). A two-group model that was tested for boys and girls separately revealed a poorer fit to the data. This implies that the data are best described by a model that assumes the same coefficients for both boys and girls. The model shows that, from T1 to T3, instrumentality and expressivity positively predicted an increase (i.e., positive change) in career-related goal clarity. Furthermore, from T2 to T3, an increase in career-related goal clarity positively predicted an increase (i.e., positive change) in life satisfaction. We also found an indirect effect of instrumentality via career-related goal clarity on life satisfaction. However, there were no other indirect or direct effects of instrumentality or expressivity on life satisfaction.

Discussion

Developmental transitions are times at which interindividual differences may be crucial for guiding future behavior and adaptation to the often-drastic changes associated with the transition (Caspi & Moffitt, 1993). The present longitudinal study investigated the role of a major transition in development with respect to both work and family, namely, that surrounding high school graduation. We investigated gender differences in gender-related attitudes and self-concept, goal clarity, and the role of these constructs in predicting adolescents' adaptation to the transition of graduating from high school. The pattern of results regarding gender-related

differences is clear, but that regarding the prediction of adolescents' adaptation to the transition is less clear. In the following, we will discuss these topics separately.

Gender differences. Previous research has shown that level of education is positively related to egalitarian attitude (Kane, 1995; Thornton, Alwin, & Camburn, 1983). Given that the present sample was highly selective with respect to level of education, one might have expected both girls and boys to endorse egalitarian attitudes and neither to show the traditional, gendered pattern of attributes. However, this was not the case. Converging with results of earlier studies with younger children and adolescents (e.g., Galambos et al., 1990), the late adolescent girls and boys in the present study showed clear gender-related differences with medium to large effect sizes. Boys endorsed traditional gender roles more strongly and egalitarian values less strongly than girls did. Since traditional gender roles and non-egalitarian attitudes reflect gender-related status differences to the detriment of women, our results suggest that boys may favor traditional attitudes more than girls because traditional attitudes hold that boys should hold a privileged position. By contrast, girls may be motivated to improve their position by rejecting traditional gender roles and non-egalitarian attitudes. This may explain why research has only found evidence supporting the gender intensification hypothesis for boys.

Previous research examining how women deal with transitional uncertainty (Weiss et al., 2012) suggests that individual differences in openness to experience modulate the adaptiveness of adopting traditional gender ideology by increasing perceptions of control. The present research, however, highlights gender-differential effects of instrumentality as a central part of girls' and boys' self-concept in predicting their endorsement of gender-role ideologies as well as their perceived clarity of career goals.

The self-concept also followed a gendered pattern, with boys describing themselves as more instrumental and girls describing themselves as more expressive. Concerning career-related aspirations, boys were more likely than girls to wish to attend a university as opposed to a college of applied sciences. Moreover, higher levels of instrumentality and lower levels of expressivity among boys was associated with an increased tendency to endorse non-egalitarian and traditional gender attitudes. In contrast, higher levels of instrumentality among girls increased their tendency to *reject* non-egalitarian attitudes. These effects highlight the important role of instrumentality in endorsing attitudes that might help to maintain or better one's social position. Finally, girls and boys did not differ with respect to career-related goal clarity, but again showed a stereotype-conforming pattern with respect to family-related goal clarity: Girls had a clearer conception of their goals in the family domain than boys did.

Adjustment to the transition. Both instrumentality and expressivity predicted an increase in career-related goal clarity but were unrelated to change in familial goal clarity. Career-related goal clarity (but not familial goal clarity), in turn, was positively related to change in life satisfaction. These findings indicate that instrumentality and expressivity are important factors contributing to the development of adolescents' education- and career-related goals during the transition of graduating from high school. Clarity concerning goals for the future leads to an increase in life satisfaction during this important transition. However, this does not imply that expressivity and greater familial goal clarity due to higher expressivity do not contribute to life satisfaction later in life when starting a family becomes a more pressing developmental task. Nevertheless, as the main developmental task after high school graduation

is to select and set out on one's career path, career-related goal clarity helps adolescents navigate through this difficult transition period.

Limitations. Overall, the effect sizes of the associations found in the structural equation model were rather small, indicating that variables other than the ones included in the present model might be more powerful predictors of adolescents' adaptation to the transition of graduating from high school. Note, however, that we were particularly interested in the *patterns* of associations and *gender-related* differences in these patterns.

One important limitation of the present study concerns the temporal dimension. It might very well be that a gender-related self-concept only shows its importance for education- and career-related success over a longer period of time (Abele & Spurk, 2011). Moreover, the present study focuses on life satisfaction as a subjective indicator of adaptation to the transition. It would be interesting to see how successful the girls and boys are at college or during their apprenticeship and later when they enter the workforce.

Conclusion. The present study contributes to our knowledge about gender-role attitudes, gender-related self-concept, and goal clarity during the transition from high school to life thereafter. First, we found differences between girls and boys in their endorsement of gender-related attitudes such as traditional gender roles and egalitarian attitudes. Second, as the transition under study is crucial for further career development (e.g., Duncan et al., 1972), it is important to understand the factors that contribute (and do not contribute) to successfully mastering this transition in order to understand development during late adolescence. We found a clear pattern of gender-related differences that are in line with findings for younger age groups. A gender-related self-concept, however, does not directly influence adolescents' short-term

369 adaptation to the transition, but may be of greater importance to their long-term career
370 development. However, instrumentality and expressivity were important factors that predicted
371 an increase in career-related goal clarity, which in turn contributed to an increase in life
372 satisfaction. Instrumentality was a main ingredient of adolescents' gender-role attitudes and the
373 clarity of their career-related future throughout the transition.

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Table 1

Summary of the Hypotheses

Construct	Hypothesis
<i>1. Gender-related differences</i>	
Gender-related attitudes	Girls endorse less traditional gender-role attitudes than boys
Gender-related self-concept	Girls and boys show a gendered self-concept (higher endorsement of instrumentality in boys; higher endorsement of expressivity in girls)
Relationships between gender-related attitudes and self-concept	Boys: Instrumentality is related to higher endorsement of traditional gender-related attitudes; expressivity is related to higher endorsement of egalitarian attitudes Girls: Expressivity is related to higher endorsement of traditional gender-related attitudes; instrumentality is related to higher endorsement of egalitarian attitudes
<i>2. Adaptiveness for the transition</i>	
Gender-related self-concept	Instrumentality is related to (a) higher career-related goal clarity and (b) satisfaction during the transition of graduating from high school Expressivity is related to (a) higher family-related goal clarity and (b) satisfaction during the transition
Goal clarity	Career-related goal clarity is related to higher life-satisfaction; family-related goal clarity is unrelated to adolescents' adaptation to the transition (life satisfaction)